

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

SUMMARY OF NOTES ON WINTER BLOOMING AT
WASHINGTON, D. C.

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The very mild winter of 1918-1919 has resulted in various unusual phenomena of plant bloom in the neighborhood of Washington, D. C., which inspire interest in similar records in the past for this vicinity. Ward in his Guide to the Flora of Washington¹ recognizes only early flowering, and autumnal flowering (meaning a distinct second blooming season) as unusual bloom phenomena.

Another category would seem to be needed to include those plants with long-persistent flowers or a habit of producing new flowers up to the extreme limit of endurance of the unfavorable conditions of approaching winter. For this phenomenon and present purposes, the simple term "late-flowering" will suffice. It is most satisfactory to group by themselves also, those plants that bloom at any time conditions are favorable.

AUTUMNAL FLOWERING.²

As used here autumnal flowering means a distinct new period of bloom for plants normally blooming earlier in the year. This has been observed³ in the following plants:

Hair grass (*Agrostis hyemalis*) November 12, 1876.

Chickweed (*Stellaria aquatica*) December 8, 1918.

Hepatica (*Hepatica triloba*) December 22, 30, 1918.

Buttercup (*Ranunculus abortivus*) November 28, 1875.

Bitter Cress (*Cardamine hirsuta*) October 3, 1880.

Dewberry (*Rubus villosus*) September 22 and October 27, 1878.

¹Bul. 22, U. S. Nat. News. 1881, pp. 26-33.

²In this and other sections of the paper are included notes kindly furnished by various individuals, to whom acknowledgment is here gratefully recorded.

³Notes of Ward, L. F. Loc. cit., also Field and Forest, III, Nos. 10-12, April-June, 1878, p. 172, and Chickering, op. cit. I, Nos. 5-6, Oct.-Nov., 1875, pp. 43-44 are incorporated.

- Strawberry (*Fragaria virginiana*) September 22, 1878.
 Bird's foot violet (*Viola pedata*) September 22, 1878, October 31, 1918, December 8, 1878.
 White violet (*Viola striata*) September 22, 1878; about Christmas, 1918.¹
 Golden Alexanders (*Zizia aurea*) November 16, 1918.
 Flowering dogwood (*Cornus florida*) October, 1918.
 Azalea (*Azalea nudiflora*) October 13, 1878.
 Laurel (*Kalmia latifolia*) Autumn, 1874.
 Deerberrry (*Vaccinium stamineum*) October 13, 1878.
 Pink Gentian (*Sabatia angularis*) October 27, 1878.
 Sweet William (*Phlox divaricata*) October 16, 1873.
 Blueweed (*Echium vulgare*) October 8, 1880.
 Speedwell (*Veronica officinalis*) October 8, 1873.
 Bluet (*Houstonia caerulea*) September 7, 1879, December 8, 1918.
 Bluet (*Houstonia purpurea*) October 13, 1878.
 Bluet (*Houstonia angustifolia*) September 12, 1880.
 Honeysuckle (*Lonicera japonica*) October 13, 1878; various dates up to December 1, 1918.

Professor Chickering, in the article cited, noted that strawberries and black-berries produced ripe fruit from autumnal flowers in 1875.

LATE FLOWERING.

The flowers that normally bloom or continue to bloom in autumn include among their number several which on account of their extreme persistency in putting forth new flowers, or because of the conspicuous lasting qualities of their bloom, form the interesting group, referred to previously, which may best be discussed under the head of late flowering. Special attention was given to this group in the latter months of 1918. Despite the fact that the dates recorded were preceded by numerous severe frosts the following 17 species were observed in bloom:

- Carpet weed (*Mollugo verticillata*) November 17.
 Peppergrass (*Lepidium virginicum*) December 8, 26.
 Witch hazel (*Hamamelis virginiana*) December 1.
 Red clover (*Trifolium pratense*) November 16.
 Sweet clover (*Melilotus alba*) November 16.
 Mercury (*Acalypha virginica*) November 16.
 Spurge (*Euphorbia corollata*) November 16; flowers very dry, papery.
 Goldenrod (*Solidago caesia*) December 8.
 Goldenrod (*Solidago bicolor*) November 16, December 1.
 Goldenrod (*Solidago erecta*) December 6.
 Goldenrod (*Solidago racemosa*) November 16, December 1.
 Aster (*Aster patens*) November 16, December 1, 30.
 Aster (*Aster cordifolius*) December 8.
 Aster (*Aster linariifolius*) November 17.
 Yarrow (*Achillea millefolium*) November 16, December 1, 8, 30.

¹Cultivated.

Tansy (*Tanacetum vulgare*) December 30.

Fireweed (*Erechtites hieracifolia*) November 16.

EARLY FLOWERING.

Early flowering, which gives us some of the most enjoyable instances of winter bloom, apparently can be separated from autumnal flowering in certain cases, only by an arbitrarily chosen date. In this locality the month of December is normally mild, and as noted in previous paragraphs, yields numerous cases both of "late" and "autumnal" flowering. January is definitely a winter month and naturally carries the impression of earliness while December often is a continuation of the autumn and in every way is associated with lateness. It would seem best therefore to select January 1 as the date after which flowering should be classified as early. Confining records of early flowering to actual winter months, it is noted that the following flowers have been observed in bloom in Washington region in January and February.¹

Spear grass (*Poa annua*) Winter 1876.

Blue grass (*Poa pratensis*) January 5, 1918.

Skunk cabbage (*Symplocarpus foetidus*) February 29, 1880; January 12, 1913.

Weeping willow (*Salix babylonica*)² February 22, 1874.

Silver poplar (*Populus alba*)² February 22, 1874.

Alder (*Alnus rugosa*) January 12, 1913, February 28, 1915, February 22, 1919.

Alder (*Alnus glutinosa*)² February 22, 1919.

Elm (*Ulmus americana*) February, 1876.

Chick-weed (*Cerastium viscosum*) February 29, 1880.

Spring beauty (*Claytonia virginica*) February 19, 1876, February 29, 1880.

Hepatica (*Hepatica triloba*) February 20, 1876, January 5, 1913, February 2, 25, 1919.

Christmas rose (*Helleborus niger*) early February, 1919.²

Creeping buttercup (*Ranunculus repens*) Winter, 1876.

Whitlow grass (*Draba verna*) January, February, 1876; February 24, 1878; February 16, 1913.

Peppergrass (*Lepidium virginicum*) January 5, 1918.

Shepherd's purse (*Capsella bursa-pastoris*) January, 1876.

Golden saxifrage (*Chryso-splenium americanum*) February 17, 1878.

Broom (*Cytisus scoparius*)² February 14, 1919.

Silver maple (*Acer saccharinum*) January 15, 1876; February 15, 24, 1878; February 23, 1919.

Red maple (*Acer rubrum*) February 29, 1880; February 13, 1909; February 2, 1913; February 28, 1915; February 9, 1919.

¹Data from personal observations, from Ward. (loc. cit.) and from Field and Forest, Vol. 1, Nos. 8-9, Jan. Feb. 1876, p. 72; Nos. 10-11, March-April, 1876, p. 88; No. 12, May, 1876, p. 94; Vol. III, Nos. 10-12, April-June, 1878, p. 151, and Forest and Stream, Vol. 6, No. 8, March 30, 1876, p. 115.

²Cultivated.

Trailing arbutus (*Epigaea repens*) January, 1919.

Yellow jessamine (*Jasminum nudiflorum*)¹ January, 1876; January 1, 1919.

In addition to the above plants, the Golden Bells (*Forsythia* spp.), it is believed, sometimes bloom in the true winter months, although no definite date of their so doing is now at hand.

During the winter of 1918-1919, various herbaceous plants as *Senecio*, *Capnoides*, *Arabis*, *Galium*, and *Veronica* seemed more fully grown than usual. Elder (*Sambucus canadensis*) and certain cultivated roses had put out leaves up to an inch in length in February.

CASUAL FLOWERING.

In an entirely separate category should be placed two irrepresibles which bloom at the slightest encouragement. These are the chickweed (*Stellaria media*) and the dandelion (*Taraxacum officinale*). Sample dates of winter flowering of the former are: December 6, 18, 25, 30; January 5; February 19, 20; and for the latter: November 16; December 1, 8, 23, 25, first week of January and February 2. Two of the other plants previously mentioned seem bent on entering this class, namely hepatica and pepper-grass. The moss pink (*Phlox subulata*)¹, according to Dr. E. T. Wherry, has been in bloom in every month during the winter of 1918-1919.

In the writer's former home—Indiana—one of the common blue or johnny violets bloomed at almost any season; here the only violet that manifests such a tendency—and that to a much lesser degree—is the birds-foot violet.

¹Cultivated.